

CLAIMS

What is claimed is:

1. A multiple circuit refrigerant system comprising:

at least two separate refrigerant circuits, each of said two separate refrigerant circuits having a compressor, a condenser, an expansion device, an evaporator, and an economizer cycle, each of said economizer cycles including a tapped line for tapping a refrigerant from an outlet of said condenser, said tapped line passing through an economizer heat exchanger, and a main flow line from said condenser from which said tapped line is tapped also passing through said economizer heat exchanger; and

said economizer heat exchangers for each of said plurality of refrigerant cycles being provided in a single unit.
2. A refrigerant cycle as set forth in claim 1, wherein said single economizer heat exchanger separates said tapped and main flow lines for each of said at least two refrigerant circuits.
3. A refrigerant cycle as set forth in claim 1, wherein said single economizer heat exchanger includes separate circuits on each of opposed faces of said single economizer heat exchanger.

4. A refrigerant cycle as set forth in claim 3, wherein there are at least three refrigerant circuits and there being at least two sets of said tapped and main flow lines on one of said faces of said single economizer heat exchanger.
5. A refrigerant cycle as set forth in claim 1, wherein said economizer heat exchanger has passages associated with each of said plurality of refrigerant cycles, and at least some of the passages having a distinct size.
6. A refrigerant cycle as set forth in claim 5, wherein a depth of said passages is different to account for a total area difference of said passages between said plurality of refrigerant cycles.

7. A multiple circuit refrigerant system comprising:

at least two separate refrigerant circuits, each of said two separate refrigerant circuits having a compressor, a condenser, an expansion device, an evaporator, and an economizer cycle, each of said economizer cycles including a tapped line for tapping a refrigerant from an outlet of said condenser, said tapped line passing through an economizer heat exchanger, and a main flow line from said condenser from which said tapped line is tapped also passing through said economizer heat exchanger; and

said economizer heat exchangers for each of said plurality of refrigerant cycles being provided in a single unit, said single economizer heat exchanger separates said tapped and main flow lines for each of said at least two refrigerant circuits, and said single economizer heat exchanger includes separate circuits on each of opposed faces of said single economizer heat exchanger.

8. A multiple circuit refrigerant system as set forth in claim 7, wherein flow passages within said heat exchanger associated with said separate circuits have a distinct size.

9. A multiple circuit refrigerant system as set forth in claim 8, wherein flow passages associated with circuits on opposed faces of said heat exchanger have a different depth.

10. A multiple circuit refrigerant system as set forth in claim 9, wherein said economizer heat exchanger having two separate circuits on one of said faces, and another circuit on an opposed face, with said flow passages associated with said first face having greater size than said circuit associated with said opposed face, to accommodate for the fact of two circuits on said one face.